|  |
| --- |
| FONTYS UNIVERSITY OF APPLIED SCIENCE |
| Test Plan |
| Parcel Handling Simulation |
|  |
| **GDS - Group 3** |
| **9/21/2010** |

|  |  |  |
| --- | --- | --- |
| Document name |  | Test Plan |
| Project name |  | Parcel Handling Simulation |
| Version |  | 1.0 |
| Department |  | ICT |
| Client |  | Casper Schellekens |
| School tutor |  | Peter Boots |

|  |  |  |
| --- | --- | --- |
| Group leader |  | Qian Li |
| Group members |  | Antoine Girard |
|  |  | John Ibeagha |
|  |  | Kritian Kolev |
|  |  | Sebastien Lepage |

**Document Change Control**

|  |  |  |  |
| --- | --- | --- | --- |
| **Version** | **Date** | **Related pages** | **Brief Description of Change** |
| 1.0 | 2010-09-21 | All |  |
| 2.0 |  |  |  |
| Final |  |  |  |
|  |  |  |  |

**Review and Approval**

|  |  |  |  |
| --- | --- | --- | --- |
| **Review** | | | |
| **Version** | **Date** | **Reviewed by** | **Position/Role** |
| 1.0 |  | Casper Schellekens | Client |
| 2.0 |  | Casper Schellekens | Client |

|  |  |  |  |
| --- | --- | --- | --- |
| **Approval** | | | |
| **Version** | **Date** | **Approved by** | **Position/Role** |
| Final |  | Casper Schellekens | School tutor |

**Table of Contents**

[1. Introduction 1](#_Toc272912311)

[1.1 Purpose 1](#_Toc272912312)

[2. Test Cases 2](#_Toc272912313)

# Introduction

This Test Plan document describes the appropriate strategies, process and methodologies which are chosen to plan, organize and execute testing of the Parcel Handling Simulation application.

## Goal

A primary objective is to: assure that the system meets the full requirements, satisfies the use case scenarios and maintains the quality of the product. At the end of the project development cycle, the user should find that the project has fulfilled all of their expectations as detailed in the requirements.

The secondary goal of this testing will be to identify and expose all issues and associated risks, and ensure that all issues are addressed in an appropriate matter before released.

## Scope of the Test Plan

The test scope includes the following:

* Use case requirements listed in the **URS** final version
* Application performance

# Test Cases

|  |  |  |
| --- | --- | --- |
| **Test Case - ID** | **1** | |
| **Use Case - ID** | 1 | |
| **Test Case - Title** | New Simulation | |
| **Author** | Qian Li | |
| **Tester** |  | |
| **Pre-condition** | The client program is open.  A simulation is not running. | |
| **Description** | To start a new simulation design | |
| **Action** | **Expected Result** | **Check – Actual Output** |
| 1. Select File->New or click on “New simulation” button | 1. The system creates a new workspace if there’s no unsaved change 2. The system shows a form with “Save”, “Don’t save” and “Cancel” choices. |  |

|  |  |  |
| --- | --- | --- |
| **Test Case - ID** | **2** | |
| **Use Case - ID** | 2 | |
| **Test Case - Title** | Save as | |
| **Author** | Qian Li | |
| **Tester** |  | |
| **Pre-condition** | The client program is open.  A simulation is open and not running. | |
| **Description** | To save the changes of a simulation | |
| **Action** | **Expected Result** | **Check – Actual Output** |
| 1. Select File->Save as or click on “Save as” button | 1. The system shows a window with locations. |  |
| 1. Find the location or enter the location in “File name” and choose the file format | 1. The system shows the information just entered. |  |
| 1. Click on “Save” button | 1. The system closes the window and saves the simulation/changes. |  |

|  |  |  |
| --- | --- | --- |
| **Test Case - ID** | **3** | |
| **Use Case - ID** | 3 | |
| **Test Case - Title** | Save | |
| **Author** | Qian Li | |
| **Tester** |  | |
| **Pre-condition** | The client program is open.  A simulation is open and not running. | |
| **Description** | To save the changes of a simulation | |
| **Action** | **Expected Result** | **Check – Actual Output** |
| 1. Select File->Save or click on “Save simulation” button | 1. The system saves the changes and shows nothing, if the simulation is already saved before. 2. The system shows a window of the locations for saving simulations. |  |

|  |  |  |
| --- | --- | --- |
| **Test Case - ID** | **4** | |
| **Use Case - ID** | 4 | |
| **Test Case - Title** | Exit | |
| **Author** | Qian Li | |
| **Tester** |  | |
| **Pre-condition** | The client program is open.  A simulation is open and not running. | |
| **Description** | To exit the client program | |
| **Action** | **Expected Result** | **Check – Actual Output** |
| 1. Select File->Exit on the toolbar | 1. The system exits if there’s nothing unsaved. 2. The system goes to “Save” test case. |  |

|  |  |  |
| --- | --- | --- |
| **Test Case - ID** | **5** | |
| **Use Case - ID** | 5 | |
| **Test Case - Title** | Start Simulation | |
| **Author** | Qian Li | |
| **Tester** |  | |
| **Pre-condition** | The program is open.  The edit part is done and the simulation mode is launched. | |
| **Description** | To start the simulation | |
| **Action** | **Expected Result** | **Check – Actual Output** |
| 1. Click on “Start” button | The simulation is running. |  |

|  |  |  |
| --- | --- | --- |
| **Test Case - ID** | **6** | |
| **Use Case - ID** | 6 | |
| **Test Case - Title** | Pause Simulation | |
| **Author** | Qian Li | |
| **Tester** |  | |
| **Pre-condition** | The client program is open.  Simulation mode is launched and a simulation is running. | |
| **Description** | To pause the running simulation | |
| **Action** | **Expected Result** | **Check – Actual Output** |
| 1. Click on “Pause” button | The simulation pauses. |  |

|  |  |  |
| --- | --- | --- |
| **Test Case - ID** | **7** | |
| **Use Case - ID** | 7 | |
| **Test Case - Title** | Stop Simulation | |
| **Author** | Qian Li | |
| **Tester** |  | |
| **Pre-condition** | The client program is open.  Simulation mode is launched and a simulation is running or paused. | |
| **Description** | To stop the simulation | |
| **Action** | **Expected Result** | **Check – Actual Output** |
| 1. Click on “Stop” button | The simulation stops. |  |

|  |  |  |
| --- | --- | --- |
| **Test Case - ID** | **8** | |
| **Use Case - ID** | 8 | |
| **Test Case - Title** | Add component | |
| **Author** | Qian Li | |
| **Tester** |  | |
| **Pre-condition** | The client program is open.  Simulation mode is launched and a simulation is running or paused. | |
| **Description** | To stop the simulation | |
| **Action** | **Expected Result** | **Check – Actual Output** |
| 1. Click on one component, then click on the workspace 2. Click on one component, accidentally click outside the workspace | 1. The component is shown in the workspace, where the user clicked. 2. Nothing happens. |  |

|  |  |  |
| --- | --- | --- |
| **Test Case - ID** | **9** | |
| **Use Case - ID** | 9 | |
| **Test Case - Title** | Draw conveyors | |
| **Author** | Qian Li | |
| **Tester** |  | |
| **Pre-condition** | The application is open and is in edit status. | |
| **Description** | To draw conveyors on the workspace | |
| **Action** | **Expected Result** | **Check – Actual Output** |
| 1. Click on “Conveyor” button, hold the mouse from one component, dragging to another one and release | 1. The system shows a line between two conveyors on the workspace with no error. |  |
| 1. Click on “Conveyor” button, hold the mouse from one component and drop it where there’s no component | 1. The system shows nothing. |  |
| 1. Click on “Conveyor” button, hold the mouse from one component, dragging to another one and release, but the path is invalid (like two gates already connected) | 1. The system shows nothing. |  |

|  |  |  |
| --- | --- | --- |
| **Test Case - ID** | **10** | |
| **Use Case - ID** | 10 | |
| **Test Case - Title** | Add storage | |
| **Author** | Kristian Kolev | |
| **Tester** |  | |
| **Pre-condition** | Client application is running in editor mode. | |
| **Description** | To test the “Add storage” functionality in editor mode | |
| **Action** | **Expected Result** | **Check – Actual Output** |
| 1. Click the “Storage” icon 2. Click on a random sector in the simulation grid 3. Click on the disabled “Storage” icon | 1. The system shows highlights the “Storage” icon 2. The system places a storage component at the selected sector. The “Storage” icon is disabled 3. The system does not react. |  |

|  |  |  |
| --- | --- | --- |
| **Test Case - ID** | **11** | |
| **Use Case - ID** | 11 | |
| **Test Case - Title** | Remove object | |
| **Author** | Kristian Kolev | |
| **Tester** |  | |
| **Pre-condition** | Client application is running in editor mode | |
| **Description** | To test the “Remove object” functionality in editor mode and re-enabling the “Add Storage” icon | |
| **Action** | **Expected Result** | **Check – Actual Output** |
| 1. Click on the previously placed storage component in the simulation grid | The system highlights the selected component. |  |
| 1. Click on the “Remove Object” icon | The system removes the storage component and re-enables the “Storage” icon |  |
| 1. Click on the “Remove Object” icon again | The system doesn’t respond (nothing selected). |  |

|  |  |  |
| --- | --- | --- |
| **Test Case - ID** | **12** | |
| **Use Case - ID** | 12 | |
| **Test Case - Title** | Set parcel simulation properties | |
| **Author** | Kristian Kolev | |
| **Tester** |  | |
| **Pre-condition** | Client application is running in editor mode. The simulation grid contains the following:   * 1 or more check-in desks * 1 or more gates | |
| **Description** | To test the parcel generation preferences in editor mode | |
| **Action** | **Expected Result** | **Check – Actual Output** |
| 1. Select a check-in desk in the simulation grid | The system highlights the selected component and enables the “Parcel generation preferences” icon. |  |
| 1. Click on the “Parcel generation preferences” icon | The system opens the “Parcel generation preferences” dialog. |  |
| 1. Enter a random parcel generation rate. Enter a destination percentage split that exceeds 100% (E.g., two gates: 60%, 45%) | The system shows the set values. |  |
| 1. Click OK | The system displays a warning message, prompting the user to correct the percentage values. |  |
| 1. Modify the percentage values to a sum under 100% (E.g., two gates: 50%, 45%). | The system shows the set values. |  |
| 1. Click OK | The system displays a warning message, prompting the user to correct the percentage values. |  |
| 1. Modify the percentage values to a 100% sum (E.g., two gates – 60%, 40%) | The system shows the set values. |  |
| 1. Click OK | The system saves the new values. |  |

|  |  |  |
| --- | --- | --- |
| **Test Case - ID** | **13** | |
| **Use Case - ID** | 13 | |
| **Test Case - Title** | Set conveyor belt speed | |
| **Author** | Kristian Kolev | |
| **Tester** |  | |
| **Pre-condition** | Client application is running in editor mode | |
| **Description** | To test conveyor belt speed preference in editor and simulation mode. | |
| **Action** | **Expected Result** | **Check – Actual Output** |
| 1. Click the “Conveyor belt speed” icon | The system opens a dialog. |  |
| 1. Modify the conveyor belt speed to a value within the accepted range, click OK. | The system changes the speed to a new value. |  |
| 1. Click the “Conveyor belt speed” icon | The system opens a dialog. |  |
| 1. Modify the conveyor belt speed to a value outside the accepted range, click OK. | The system shows a warning and prompts the user to modify the value. |  |
| 1. Start the simulation | The system switches to simulation mode. |  |
| 1. Click the “Conveyor belt speed” icon | The system opens a dialog. |  |
| 1. Modify the conveyor belt speed value, click OK. | The system changes the speed to a new value. The conveyor belts speed up or down accordingly. |  |

|  |  |  |
| --- | --- | --- |
| **Test Case - ID** | **14** | |
| **Use Case - ID** | 14 | |
| **Test Case - Title** | Set simulation speed | |
| **Author** | Kristian Kolev | |
| **Tester** |  | |
| **Pre-condition** | Client application is running in editor mode | |
| **Description** | To test simulation speed preference in editor and simulation mode | |
| **Action** | **Expected Result** | **Check – Actual Output** |
| 1. Click the “Simulation speed” icon | The system opens a dialog. |  |
| 1. Modify the simulation speed to a value within the accepted range, click OK. | The system changes the speed to a new value. |  |
| 1. Click the “Simulation speed” icon | The system opens a dialog. |  |
| 1. Modify the simulation speed to a value outside the accepted range, click OK. | The system shows a warning and prompts the user to modify the value. |  |
| 1. Start the simulation | The system switches to the simulation mode. |  |
| 1. Click the “Simulation speed” icon | The system opens a dialog. |  |
| 1. Modify the simulation speed value, click OK. | The system changes the speed to a new value.The entire simulation speeds up or down accordingly (both conveyor speed and simulation time). |  |